

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

**MORPHOMETRIC:**

Lake: PHILLIPS POND	Lake Area (ha):	34.52
Town: SANDOWN	Maximum depth (m):	5.8
County: Rockingham	Mean depth (m):	3.1
River Basin: Coastal	Volume (m <sup>3</sup> ):	1058500
Latitude: 42°55'05" N	Relative depth:	0.9
Longitude: 71°11'20" W	Shore configuration:	1.25
Elevation (ft): 212	Areal water load (m/yr):	11.29
Shore length (m): 2600	Flushing rate (yr <sup>-1</sup> ):	3.70
Watershed area (ha): 811.8	P retention coeff.:	0.54
% watershed ponded: 1.0	Lake type:	natural

**BIOLOGICAL:**

		13 February 1991	27 June 1990
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 99%	ASTERIONELLA 80%
	#2		DINOBRYON 10%
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			580.0
CHLOROPHYLL-A (µg/L)			5.31
DOM. ZOOPLANKTON (% TOTAL)	#1	CILIATE SPP. 32%	POLYARTHRA 56%
	#2	KELICOTTIA 23%	KERATELLA 26%
	#3	KERATELLA 17%	
ROTIFERS/LITER		34	207
MICROCRUSTACEA/LITER		18	29
ZOOPLANKTON ABUNDANCE (#/L)		82	236
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			1.7
BOTTOM DISSOLVED OXYGEN (mg/L)		8.0	2.0
BACTERIA (fecal col., #/100 ml)	#1		< 10
	#2		10
	#3		

**SUMMER THERMAL STRATIFICATION:**

stratified

Depth of thermocline (m): 2.7  
Hypolimnion volume (m<sup>3</sup>): 93000  
Anoxic volume (m<sup>3</sup>): None

**CHEMICAL:**

Lake: PHILLIPS POND

Town: SANDOWN

	13 February 1991		27 June 1990		
DEPTH (m)	1.5	3.0	1.5		3.0
pH (units)	6.4	6.3	6.8		6.4
A.N.C. (Alkalinity)	5.9	6.2	7.4		7.6
NITRATE NITROGEN	0.13	0.12	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.45	0.41	0.61		0.39
TOTAL PHOSPHORUS	0.005	0.004	0.027		0.020
CONDUCTIVITY ( $\mu$ mhos/cm)	111.7	115.1	113.5		112.9
APPARENT COLOR (cpu)	110	128	96		98
MAGNESIUM			1.13		
CALCIUM			5.4		
SODIUM			12.5		
POTASSIUM			1.50		
CHLORIDE	21	22	24		23
SULFATE	7	7	4		4
TN : TP	116	133	23		20
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

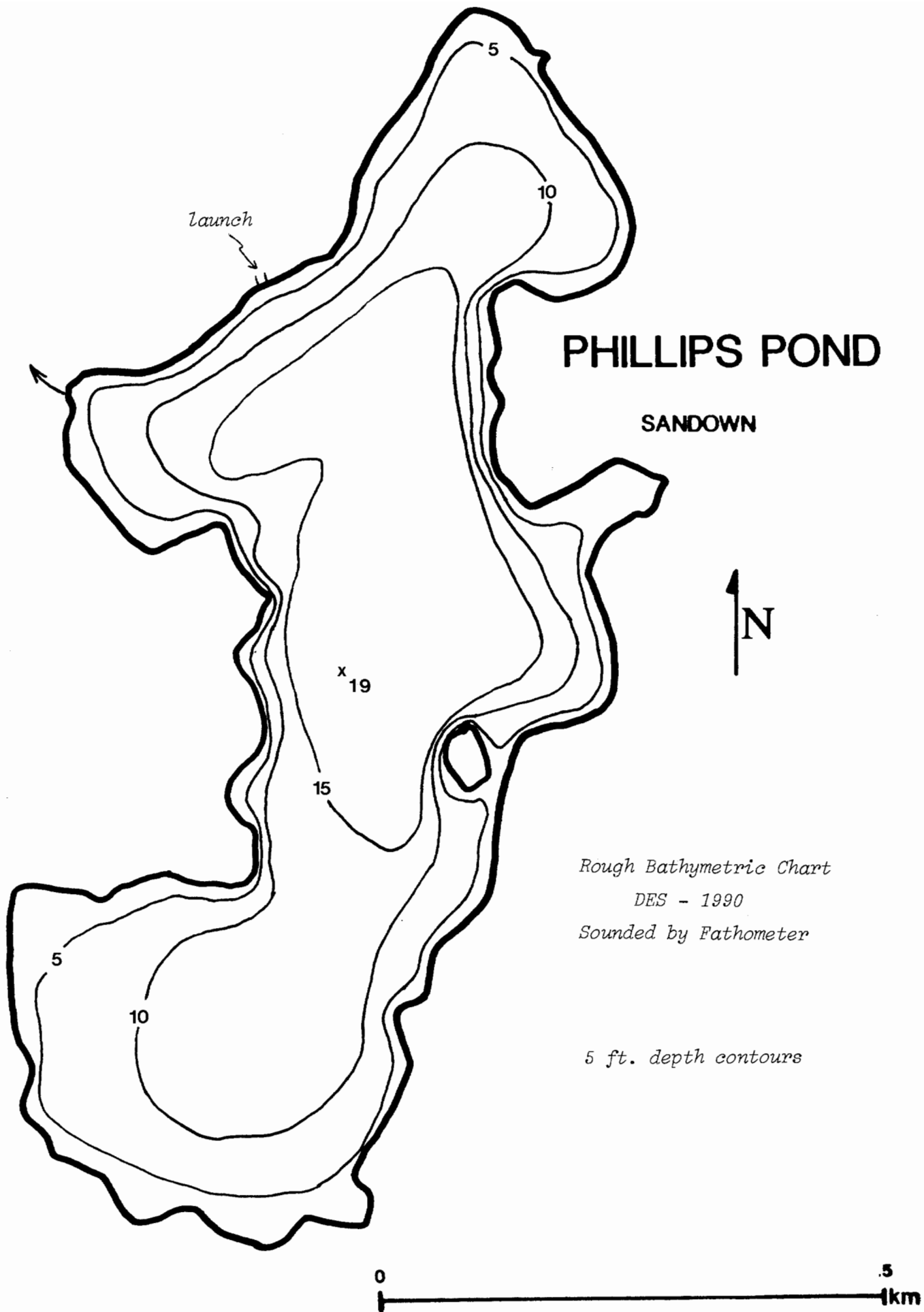
**TROPHIC CLASSIFICATION: 1990**

D.O. S.D. PLANT CHL TOTAL CLASS

1	4	4	1	10	Meso.
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**COMMENTS:**

1. A good town boat launch site was located on North Shore Road; parking was available at the library. A town beach was located at the northern end of the pond.
2. The pond had very dark tea-colored water.
3. Chroomonas (60%) was the dominant genus of wholewater phytoplankton.
4. Phillips Pond was previously surveyed and classified in 1977. There was no change in the trophic status but the plant growth was somewhat more abundant in 1990, primarily because of the presence of the exotic plant Cabomba.



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